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Neighbourhood spatial order and firm mobility in disadvantaged urban neighbourhoods of the Netherlands

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Abstract

In recent years, urban residential neighbourhoods in the Netherlands have become increasingly known to function as incubation zones for small-scale businesses. Despite this development, little is known about whether and how the local production environment in these neighbourhoods shapes firm development prospects.

In this paper we remedy this shortcoming by studying how two aspects of the local production environment, namely the neighbourhood built environment and spatial regulations, affect firm mobility of small-scale businesses in urban residential neighbourhoods. Towards this aim, we contrast two sets of urban neighbourhoods, namely pre-WWII and post-WWII neighbourhoods, with comparable, low socio-economic profile, but with distinct built environment and spatial regulations.

We combine quantitative and qualitative methods analysing available trade register data from Dutch regional Chambers of Commerce, studying neighbourhood development plans, and conducting focus group and individual interviews with neighbourhood experts and entrepreneurs.

The local built environment and its spatial regulations do indeed appear to affect firm mobility choices of entrepreneurs in the studied neighbourhoods, although overall mobility rates do not significantly differ between pre-war and post-war neighbourhoods. Further analysis, however, reveals that these two sets of neighbourhoods offer distinct local production environments, since the nature of commercial activities and entrepreneurs' neighbourhood experiences differ notably.

Keywords: urban residential neighbourhoods, small-scale business, local production environment, firm mobility, neighbourhood built environment, spatial regulations

JEL codes: R23, R21

1. Introduction

In recent years, urban residential neighbourhoods in the Netherlands have become increasingly known to function as incubation zones for small-scale businesses, often operated from home. Despite this development, little is known about whether and how the local neighbourhood context, as a local production environment, shapes firm development prospects. Prior entrepreneurship research has mostly focused on the role that firm- and entrepreneur-specific features and urban and regional characteristics play for firm developments. However, for a growing number of small-scale firms located in residential neighbourhoods, the local neighbourhood context is also likely to matter for firm development (PBL, 2010; Beckers, 2010). According to Rekers and Van Kempen (2000) there are four key dimensions along which urban residential neighbourhoods may differ regarding opportunities for entrepreneurs. The first dimension entails the demographic characteristics of neighbourhoods that shape both the potential supply of entrepreneurs and the demand for their products. Dimension two includes the social dynamics in the neighbourhoods such as processes of gentrification that may affect chances for starting a business. Dimension three, the physical spatial structure or morphology of neighbourhoods, may foster or hamper business start-ups. The fourth dimension involves the differences in local policies, rules, business regulations, and support regimes pertaining to small businesses in neighbourhoods that may affect entrepreneurs (Ram *et al.*, 2002).

This paper focuses on the latter two dimensions of urban neighbourhoods as outlined by Rekers and Van Kempen (2000) and their potential implications for local business prospects of entrepreneurs in urban residential neighbourhoods. More specifically, this paper investigates the potential relationship between two neighbourhood characteristics, namely the neighbourhood built environment and its spatial regulations, and firm mobility. We build on prior work (Beckers, 2010), which describes how the spatial neighbourhood structure and its related regulations affect the spatial allocation pattern and business success of local businesses; in this paper, we

extend on the prior work and opt for the analytical focus on firm mobility. Unlike in this prior work, this paper, however, adopts a more general focus on small-businesses in residential urban areas rather than on migrant entrepreneurs specifically. It is expected - in a similar fashion than was shown for business success – that neighbourhood morphology and its regulations partially determine firm relocation choices of entrepreneurs as first and foremost commercial activities are bound by availability of suitable business spaces.

To explore how an area's built environment and its regulations shape firm mobility choices of entrepreneurs, we use two sets of urban residential neighbourhoods with a low socio-economic profile (disadvantaged neighbourhoods hereafter), namely pre-WWII and post-WWII neighbourhoods, as contrasting cases. In the literature, an important distinction is made between older, pre-WWII neighbourhoods with little functional separation between residential and commercial purpose spaces (also called mixed neighbourhoods) and the predominantly mono-functional, residential neighbourhoods built after WWII. Mixed neighbourhoods are believed to offer more promising business prospects for businesses operating in the retail, small-scale wholesale, restaurants and catering industries, combining good access locations with relatively affordable commercial prices (Jacobs, 1961). Pahl (1984) noted that pre-WWII neighbourhoods have a greater 'getting-by potential' than post-WWII neighbourhoods (Kloosterman and Van der Leun, 1999). The described functional differences between the two neighbourhood types provide a promising starting point for our analysis to find out how the local spatial environment and its regulations may affect firm mobility choices of entrepreneurs. This triggers our study's main research question: *To what extent do the spatial environment and its regulations of pre- and post-WWII disadvantaged urban neighbourhoods affect firm mobility choices of small businesses in these residential areas?* We answer the central research question in two steps. First, we illustrate notable pre- and post-war neighbourhood differences with regard to their built environment and spatial regulations. Second, we investigate what implications these differences have for firm mobility choices of entrepreneurs in these neighbourhoods.

This paper is structured in six sections. Following the introduction, section two discusses prior literature with the aim to identify local factors affecting firm mobility choices of entrepreneurs in urban residential neighbourhoods, especially factors to do with the spatial environment and its regulations. Section three presents the research

methodology of this study, which provides information on the neighbourhood selection procedure, as well as details on data collection and use. In section four we illustrate pre- and post-war neighbourhood differences with regard to their built environment and spatial regulations. Section five investigates firm mobility trends and relocation considerations of entrepreneurs in these neighbourhoods. Finally, section six contains the study's conclusions.

2. Prior literature: Firm mobility and the urban residential neighbourhood as a production environment

In this section, we take a closer look at a stream of literature analysing the relation between the firm and its production environment as it aids our understanding of how the spatial environment and its regulations in urban residential neighbourhoods may affect firm mobility choices of entrepreneurs.

The urban residential neighbourhood as local production environment

In recent years, urban residential neighbourhoods have become increasingly known to function as incubation zones for small-scale businesses (Weterings *et al.*, 2008; Schutjens *et al.*, 2007). By and large, this development was brought about by the steady increase of the self-employed without employees, who more often than not chose to establish their firms from the entrepreneurs' homes (Schutjens and Stam, 2003; Stam, 2009). Home-based business has become a viable business model enabled by increased outsourcing of commercial activities by large firms, the economic shift towards business services and ICT, the rise of internet commerce, and growing flexibility of labour contracts (Wennekers *et al.*, 2008). For many firms, operations from home allow significant savings on accommodation costs as operations of these entrepreneurs often require little more than a desk and a computer, (Schutjens *et al.*, 2007; PBL, 2010).

The residential neighbourhood affects business prospects and mobility of small-scale firms as it forms the local production environment. The term production environment was first coined in the mid-1960s and has been widely used to date to conceptualize the large number of firm external factors impacting on business operations (Buit, 1965; Lambooy, 1997). Although, local business dynamics depend greatly on firm-specific characteristics (Garnsey, 1998; Bridge *et al.*, 2003; Tamásy,

2006) as well as urban and regional characteristics (Porter, 1998; Stuart and Sorenson, 2003; Audretsch and Dohse, 2007), the neighbourhood as a local production environment also plays a role in shaping local business dynamics, namely business behaviour and development prospects, as well as firm mobility, as was concluded in a recent study by the Netherlands Environmental Assessment Agency (PBL hereafter, 2010).

Lambooy (1995) distinguishes between two types of relations between the firm and its production environment, namely market relations and conditional relations. Market relations include the firm's position in the production chain, its geographical location with respect to relevant markets, its ability to attract qualified personnel and a sufficient amount of capital. Besides market relations, the conditional relations facilitate business operations and set the functional limits. These concern the local infrastructure, government policy affecting daily business practices (i.e. subsidies, permits), as well as physical characteristics of the business space itself and its surroundings. Given the complex relation between the firm and its physical environment, it is surprising that this link is hardly explored in the present literature, as pointed out by Lambooy (1990) and Oerlemans *et al.* (1998). Moreover, the business space has the role to accommodate firm commercial activities and is thus an essential ingredient to firm development. As such it is a strategic element of firm management, whereby entrepreneurs can increase firm returns by means of optimizing the use of business space (Olden, 2010). The optimal business space, in terms of floor space and architectural aspects as ceiling height and bearing-power of the floor, moreover depends on the production process (Louw *et al.*, 2009). Business spatial demands vary greatly according to the nature of commercial activities and stage in the firm life cycle.

The urban residential neighbourhood and firm mobility

The capability of a neighbourhood to retain firms indicates to what extent it manages to cater to the needs of local businesses and serves as a valued production setting. In this sense, studying firm mobility may provide useful insight in the relation between the local production environment and business prospects as it shows how entrepreneurs choose firm locations and what motivates their decisions (Hayter, 1997). It thus allows for the analysis of the relative importance of different business location factors for firm mobility (Olden, 2010; Van Oort *et al.*, 2007; Pellenbarg,

2005; Pen, 2002; Wever, 1984). Since the beginning of the '70s, firm mobility in Europe has predominantly been a local phenomenon. In the case of the Netherlands, in the period 1999-2006 nearly all of firm mobility (which is about 4% of total firms) took place within the own region (94%) and three-quarters (75%) even within the own municipality (Van Oort *et al.*, 2007; Olden, 2010).

Business location theory of the behavioural stream of thought, offers a useful starting point to identify relevant aspects of the local production environment to affect entrepreneurs' relocation choices out of disadvantaged urban neighbourhoods. The behavioural location theory focuses on the entrepreneur who takes business decisions based on incomplete and subjective information depending on personal ambitions and preferences (Van Dijk and Pellenbarg, 2000). As this theory is not only concerned with the final location choices but also with its preceding decision processes, it is well suited to assess how the local surroundings of a firm – next to business space aspects themselves - affect firm choices to move out of disadvantaged urban neighbourhoods (Louw *et al.*, 2009). The local surroundings involve the firm's location in the urban space economy, its accessibility, presence of certain amenities in the neighbourhood (i.e. stores, hospitality). Most relevant business space aspects are the price, size and availability of suitable commercial floor space (Aalders *et al.*, 2008; Louw *et al.*, 2009).

According to research on entrepreneurs' valuations of business location factors (i.e. Louw *et al.*, 2009), aspects relating to the local production environment of firms have gained importance in recent years. Apart from 'classical' factors like transport and labour costs (i.e. firm closeness to the market, suppliers and contractors), and agglomeration advantages, recently also aspects such as (local) policy, the quality of the living and working environment and representativeness of the business space are considered important by entrepreneurs. This underlines their growing attention for architectural quality, local fit with surroundings, sustainability and functional mix (Pellenbarg, 1996; Louw *et al.*, 2009).

Inadequate characteristics of local business spaces are essential push-factors explaining firm mobility patterns, as business location choices are subject to entrepreneurs' business space demands and preferences (Aalders *et al.*, 2008; Van Dijk and Pellenbarg, 2000; PBL, 2010). As in some neighbourhoods, characterized by higher local building density, the expansion of business or parking spaces is more problematic than in others, chances of firm mobility are higher there (Hagens *et al.*,

2009; Marlet *et al.*, 2008a,b). The research on location factors distinguishes between push, pull and keep-factors. Push-factors are reasons for firms to leave a location, keep-factors are reasons to stay, and pull-factors refer to aspects of the new location that attract firms. According to Pen (2002), insufficient business space is the prime push-factor behind firm mobility, and may result from developments in the primary production process (i.e. increase of production volume, diversification, specialization) or through organizational changes (Louw *et al.*, 2009). Especially firms in their growth phase tend to experience problems in finding suitable business spaces in residential neighbourhoods, and relatively often choose to move to business estates, the only type of location that meets their spatial demands (Louw *et al.*, 2009). Residential neighbourhoods interested in retaining firms may thus be well advised to offer a diverse supply of local business spaces including multifunctional housing units with work spaces and small scale business spaces (Aalders *et al.*, 2008).

The above point is also confirmed by the study of PBL (2010) finding that effects of neighbourhood characteristics on firm mobility chances are larger for entrepreneurs who choose to relocate to non-residential production locations. This finding suggests that for these entrepreneurs the local conditions have been an important push-factor in their choice, which is foremost attributed to insufficient firm spatial expansion possibilities, but perhaps also to the decay of physical surroundings. Moreover, for movers between residential neighbourhoods, next to business-related considerations also changes in entrepreneurs' private housing preferences may explain firm mobility patterns, given the great share of home-based businesses in residential neighbourhoods (Schutjens *et al.*, 2007).

Finally, the physical neighbourhood characteristics (i.e. composition of the housing stock, share of high-rise buildings) and characteristics of the economic structure, especially the presence of amenities such as stores and hospitality activities, may play a role in entrepreneurs' considerations to stay in a neighbourhood. Neighbourhoods with a higher share of high-rise buildings also show higher firm mobility rates, while neighbourhoods with a notable presence of stores and hospitality activities tend to enjoy increased local firm attachment (PBL, 2010). Neighbourhoods dating from more recent building periods tend to be less successful than older neighbourhoods in retaining firms, which is – although not mentioned in the study – a likely consequence of the increased functional separation between residential and commercial functions in more recent neighbourhoods. Pure residential

neighbourhoods thus tend to function well as business incubation areas, but are less successful in keeping firms (PBL, 2010). These neighbourhoods were not designed for commercial activities other than those serving the everyday needs of local residents. Consequentially, proper commercial spaces are a scarce commodity there and entrepreneurs are unlikely to find suitable accommodation to meet their growing spatial needs.

The theory of business accommodation behaviour ('Huisvestingstheorie') by Brouwer (1994) offers useful insight into housing considerations and firm relocation choices of entrepreneurs in disadvantaged urban neighbourhoods. Many entrepreneurs start their firms from home or in special business starter locations in residential neighbourhoods. Once their commercial activities increase, entrepreneurs search for new accommodation especially at the lower end of the market of existing commercial spaces, whereby rental is more popular than purchase. If lack of space is the only shortcoming of the present locations, entrepreneurs first try to expand their business locations by acquiring neighbouring buildings before they opt for firm relocation. Moreover, in the case of firm relocation, they give preference to locations that are nearby to retain their going market relations and employees. Only when lack of space is not the only factor for firm mobility and other factors play a role (i.e. specific location demands, organizational changes, strategic considerations) entrepreneurs will search for business space within a wider geographical area. Over time, as firms have become well established in the market, they tend to face another shortage of business space (Van Engelenburg and Stam, 2000) since the increased production volume calls for more efficient supply-chain management as well as an attractive work environment. This may require the acquisition of a new building, which is most likely situated on a business estate where spatial expansion opportunities are the greatest due to the ready availability of building space and less restrictive local spatial and environmental regulations (Louw *et al.*, 2009).

3. Methodology

This section explains the study's exploratory research approach to investigate how the neighbourhood spatial environment and its regulations shape development prospects of local firms in pre- and post-war urban residential neighbourhoods. The study compares two disadvantaged (i.e. with low socio-economic profile) urban residential

neighbourhood types with different development histories and purposes of spatial use, which in the urban geography literature are called pre-WWII neighbourhoods and post-WWII neighbourhoods. The basic functional divide between these neighbourhoods is that pre-war neighbourhoods were built for mixed residential and commercial purposes, while post-war neighbourhoods were designed by and large for residential purposes adhering to the dominant modernist view of spatially separating living and work environments. It is expected that this fundamental difference reflects in local spatial regulations, which in turn partly affect local business prospects and mobility choices of entrepreneurs. To explore this issue further, a number of pre-war and post-war disadvantaged urban neighbourhoods are selected, as is explained in the following section.

Neighbourhood selection

The neighbourhood selection procedure adheres to a number of methodological and practical considerations. First, as the study opts for a matched pairs case study design comparing pre-war and post-war disadvantaged residential urban neighbourhoods, it needs to be ascertained that the selected neighbourhoods of the study are ‘typical’ candidates of pre- and post-war disadvantaged urban neighbourhoods, and that the pre-war neighbourhoods are comparable with the post-war ones except for their characteristics relating to spatial environment and its regulations. Second, a number of practical considerations are necessary in order to actually be able to implement the mixed methods research design. In practice this means that a number of minimum criteria have to be specified to define and select disadvantaged urban neighbourhoods that render a sufficiently large number of potential interview candidates of local entrepreneurs. The selection based on neighbourhood data of the Netherlands Bureau of Statistics yields a total of 93 suitable neighbourhoods for our study that are located in the four major cities (Amsterdam, Rotterdam, The Hague, Utrecht), have high shares of non-western population (within top one-third of the neighbourhood distribution), accommodate a minimum of 10 private households per hectare built-up area and at least 50 firms¹ whereby the number of private households needs to be at least five times larger than the number of firms.

¹ Acknowledging that this is likely a limitation of the study, the financial resources available for this study largely restrict the number of neighbourhoods to be investigated. Please also refer to Beckers (2010) for more detail.

Moreover, to ensure the study's methodological validity as required by the matched-pairs case study design, 'typical' candidates of pre-war and post-war type neighbourhoods have to be identified among the remaining 93 disadvantaged urban neighbourhoods. To do so, the remaining neighbourhoods are compared on basis of their socio-economic population composition (including age structure, household size, share non-western population, labour market participation, income), neighbourhood dynamics (mobility rates), and commercial characteristics (firm industry distributions, housing prices), which are available from the Netherlands Bureau of Statistics. The comparison of the 93 disadvantaged urban neighbourhoods yields five 'typical' neighbourhoods that are selected for this study as they are representative of the population of 93 neighbourhoods in terms of socio-economic population composition, neighbourhood dynamics, and commercial characteristics. The mean scores of the five 'typical' neighbourhoods on all variables fall within one standard deviation of the overall population mean. Thus, given the available neighbourhood information, we can be confident that the selected neighbourhoods are representative of the target group of disadvantaged urban neighbourhoods. These selected neighbourhoods include three pre-war type neighbourhoods, namely Indischebuurt-Oost, Regentesse-/Valkenboskwartier-Zuid, Oosterparkbuurt, and two post-war type ones, namely Overvecht-Neckardreef and Moerwijk-West.

Data collection and use

The research presented in this paper is based on a combination of quantitative and qualitative methods. First, it quantitatively compares the local business structures and firm mobility rates per sectors across the pre- and post-war neighbourhood clusters for the period 2005-2007. This comparison is conducted on basis of Chamber of Commerce trade register data available on a five digit postal code level². Second, it offers a review of the zoning regulations of the neighbourhoods as stated in the neighbourhood development plans ('Bestemmingsplan'). These documents provide a rich source of information including the regulatory aspects determining spatial use in these neighbourhoods. Third, qualitative primary data is collected by means of eight focus group discussions with neighbourhood experts as well as 40 interviews with local entrepreneurs. The data collection took place in the period from April 2008 –

² Five digit postal code areas vary in size depending on population density, but generally are of dimension 200x200 metres.

March 2009 and provides in-depth descriptions of the local spatial environments and business settings, local institutional arrangements and levels of social cohesion, as well as the experiences of the entrepreneurs. A total of eight focus group sessions was held with local experts of the selected neighbourhoods and with general experts on entrepreneurship/local economy, who were recruited from a list of 700 potential candidates. With regard to the 40 face-to-face interviews with local entrepreneurs³, eight entrepreneurs were recruited for each of the five neighbourhoods. Moreover, half of the neighbourhood samples involve neighbourhood firm movers (firms that relocated to other neighbourhoods) and half neighbourhood firm stayers.⁴ The latter division enables the analysis of the relationship between neighbourhood aspects, especially neighbourhood morphology and spatial regulations, and firm mobility choices of entrepreneurs.

4. Neighbourhood morphology and spatial regulations in pre- and post-war urban residential neighbourhoods

Pre- and post-war neighbourhood differences in morphology and regulations and implications for local businesses

There are a number of salient differences regarding spatial environments and regulations in pre- and post-war neighbourhoods, which are likely to affect business prospects of local entrepreneurs. In this paragraph we describe the most striking differences and formulate a number of hypotheses about their expected implications for local business prospects and firm mobility. These hypotheses shall be investigated more thoroughly in section five.

To start with the spatial environment, several notable differences are visible between the two neighbourhood types. First and foremost, the functional divide between the neighbourhoods is salient. On the one hand, pre-war neighbourhoods were designed for mixed residential and commercial purposes, whereas on the other hand, post-war neighbourhoods were designed purely for residential purposes. This basic functional difference explains why pre-war neighbourhoods dispose over

³ These are entrepreneurs who live in or nearby the neighbourhood where their firms are located or were living there at the point when the firm started in the neighbourhood.

⁴ As geographical information on business locations originates from the KvK Handelsregister, where locations are recorded by postal codes, neighbourhood movers are defined as businesses that relocated to another postal code (five digit level) in the period 1 January 2005 to present.

numerous buildings especially constructed for small-scale business activities (i.e. offering higher ceilings, larger windows and/or separate entrances) but in post-war neighbourhoods quality business spaces are scarce. A second striking difference shows with regard to the spatial allocation of residential and commercial functions within the neighbourhoods. Even though commercial activities are concentrated along the major roads in both pre- and post-war neighbourhoods, in the latter neighbourhoods the spatial divide between residential and commercial functions is far more pronounced. 'Visible' firms are with hardly any exceptions located on the edges of the neighbourhoods kept apart from residences by wide plantation strips.

A third feature distinguishing the two neighbourhood types relates to the local urban renewal initiatives carried out in recent years. While in post-war neighbourhoods the emphasis was on the renovation and replacement of monotonous housing blocks, in pre-war neighbourhoods their focus has also been on the creation and refurbishment of business spaces (i.e. ground floor expansions and alterations) and on attracting new firms to designated commercial zones. Based on the described differences above, it is expected that firms in post-war neighbourhoods would be put at a disadvantage in finding suitable local business spaces to match their changing spatial needs. This might have negative implications for the firms' local development prospects and could thus result in higher firm mobility out of post-war neighbourhoods vis-à-vis pre-war areas.

With regard to the spatial regulations, a number of salient differences are found between pre and post-war neighbourhoods. Generally speaking, regulations in pre-war neighbourhoods appear rather supportive of commercial activities while the ones in post-war neighbourhoods do not appear so, especially not to non-neighbourhood oriented firms (not catering to the needs of local residents). To start with, in pre-war neighbourhoods local policy strives to combine residential and small-scale commercial purposes and permits home-based firm establishment throughout the neighbourhood. On the contrary, in post-war neighbourhoods local regulations are clearly directed at protecting the residential function of the areas granting little space to commercial activities and superimposing far-reaching restrictions on firms. This reflects in the rigid distinction between residential and commercial purpose spaces, whereby the former may officially be used only for housing and not for home-based firms.

A second notable difference has to do with the scope of support for commercial activities. In pre-war neighbourhoods this scope is rather broad including any small-scale business activities not harming the local living environment (by means of excessive noise, pollution, traffic). The policy aim is to secure local commercial spaces and foster business start-ups. This is particularly notable in commercial concentration areas or shopping streets where planned multi-purpose spaces offer plenty of business spaces on the ground floor level, spatial regulations are especially ‘business-friendly’ and firms are eligible for government subsidies. In post-war neighbourhoods, spatial regulations clearly have a more narrow scope of support for business activities as existing and new building spaces can in principle only be used by neighbourhood oriented firms. Furthermore, business spaces in shopping streets are reserved without exception for neighbourhood oriented firms in the retail, hospitality and personal services sectors with minor exceptions in Moerwijk.

A final distinguishing point relates to the procedures for alterations in spatial regulations. In post-war neighbourhoods, these procedures appear strict as exemptions are made on an individual basis to allow non-neighbourhood oriented firms and partial use of residential spaces for home-based firms. On the contrary, in pre-war neighbourhoods these procedures seems rather liberal, which implies that convertibility of spaces from residential to commercial purposes and between different commercial purposes can be done without much difficulty and in a timely fashion.

Based on the differences in spatial regulations describe above, it is expected that firms in post-war neighbourhoods experience the regulatory environment as more restrictive to their daily operations. Local government support is low and entrepreneurs’ needs are likely considered as less important in case of conflicting interests between the residential and commercial neighbourhood functions. This in turn may have negative implications for firm development prospects, which may show in higher firm mobility out of post-war neighbourhoods as compared to pre-war ones.

A snapshot of local business landscapes in pre- and post-war neighbourhoods

The data of the Chamber of Commerce trade register provides a useful overview of neighbourhood business structures at a five digit postal code level as it contains details on total firms per sector of commercial activity. It renders first irrefutable

insight on whether and how business structures differ across the pre- and post-war clusters of neighbourhoods and makes it possible to draw first connections between potential differences therein and the underlying dissimilarities between the neighbourhoods' spatial environment and regulations.

Table 1 here

Table 1 above shows the commercial activities in the pre- and post-war clusters of neighbourhoods. After controlling for inequalities in the sizes of the building areas, it is clearly visible that pre-war neighbourhoods accommodate considerably more businesses than post-war neighbourhoods (55.4 vs. 30.7 firms per 10 hectare building area respectively). This is a strong first indication of the spatial use differences of the built environment between the two sets of neighbourhoods. On the one hand, pre-war neighbourhoods aim to combine both residential and commercial purposes and thus boast a considerable number of entrepreneurs, on the other hand, post-war neighbourhoods are designed by and large for residential purposes and that leaves limited space for businesses. This is also illustrated by the following quote from a post-war neighbourhood expert:

'Overvecht is of course a post-war neighbourhood. And many post-war neighbourhoods have as feature a structure ..., in the construction of the neighbourhood economic activities were not much considered. So, in other words, there are some small shops, there is one central shopping centre... that is all retail. And beyond that there is actually nothing... there are no possibilities in the built environment to start a firm. Because during the construction this was not considered. The neighbourhood was intended as a quiet, green residential neighbourhood. And it is still like that today... But in terms of structure it is a totally different neighbourhood than a pre-war one... and in a post-war neighbourhood it is difficult to create opportunities for business.'

Not only are commercial activities unevenly spread between the two sets of neighbourhoods, they are also unevenly distributed across sectors. Generally speaking, the differences between pre-war and post-war neighbourhoods are relatively

lower for neighbourhood oriented sectors (including catering and hospitality, personal services and retail and repair) than for non-neighbourhood oriented ones (respectively 20.3 vs. 14.6, and 35.1 vs. 16.1 firms per 10 acres of building area respectively). It was actually expected to observe a far more drastic divide between the neighbourhood oriented and non-neighbourhood oriented figures and far less non-neighbourhood oriented businesses in post-war neighbourhoods, since their neighbourhood development plans state that in principle the latter business activities are disallowed there. Apparently, local regulations of these areas are thus less restrictive to non-neighbourhood oriented firms than was assumed from the local development plans. In any case, the general picture of pre- and post-war neighbourhoods is clear: Pre-war neighbourhoods are attracting more businesses in general, and especially so non neighbourhood oriented ones. This is in part a logical consequence of the noted differences in the neighbourhoods' spatial environments and regulations as was explained in section four and is furthermore illustrated by the following quotes from local experts in a pre- and a post-war neighbourhood respectively:

'In this type of neighbourhoods you are dealing with areas where retail, especially retail, have a long-standing tradition. And also a large number of crafts...this is a neighbourhood where shops have always been around...'

'And that [vitality] you miss here, simply, customers do not come here. It is a residential neighbourhood with no reason to be here. You live here, you sleep here but apart from that...'

5. Firm mobility trends and relocation considerations of entrepreneurs in pre- and post-war residential neighbourhoods

While the prior section has uncovered dissimilarities in local spatial environments and regulations between pre- and post-war neighbourhoods, this section investigates as to whether this also has implications for firm mobility choices of local entrepreneurs in these neighbourhoods. Towards this aim, we combine the insight gained through the chamber of commerce trade register data with the findings from the primary data collected in the focus groups and interviews. This section is structured in three parts. Part one starts off with a discussion on firm mobility trends in the selected pre- and post-war residential neighbourhoods. Part two establishes a link between key firm location factors identified in the literature and mobility choices of entrepreneurs. Part

three focuses on neighbourhood stayers in pre- and post-war neighbourhoods (entrepreneurs who have not relocated to other neighbourhoods). Here we aim to gain insight in entrepreneurs' relocation considerations and to uncover potential differences between these neighbourhoods with regards to entrepreneurs' incentives to move and to stay.

Firm mobility trends in pre- and post-war residential neighbourhoods

This paragraph discusses firm mobility trends in the five selected urban residential neighbourhoods on the basis of chamber of commerce trade register data. Following some general remarks on common mobility trends in all of our study neighbourhoods, the remainder of this paragraph will contrast mobility between pre- and post-war neighbourhoods.

Before analysing the mobility trends, it is important to keep in mind that all study neighbourhoods are disadvantaged residential neighbourhoods, which – given their comparably low cost, but scarce business spaces and arguably unfavourable local business conditions - tend to generally appeal to business starters, but less to established firms. This seems a common feature of all the neighbourhoods of our study as is illustrated by the following quotes of neighbourhood experts:

'Surely in the smaller shopping areas, where entrepreneurs used to occupy a firm space for five to ten years in a shopping centre. You see that the [firm] changes are larger now. Often at the moment that a commercial space is empty a new firm takes its place. And I do not know if this [high turnover of firms] is due to firm failures or firms see the light [find better business spaces elsewhere]...But I do see that the [firm] changes at the moment that a business space becomes vacant are very big. Often there are three or four different firms over a period of three years.'

'Yes, ... does that [firm mobility] not also relate to the housing career? Because, at some point they [entrepreneurs] leave [the neighbourhood]. A small firm has success, they [entrepreneurs] start a [private] relationship, a child comes, they want a bigger apartment, etc... And then they leave the neighbourhood ... But that is of course part of this neighbourhood.'

Table 2 below shows the shares of relocated firms per total firms in pre- and post-war neighbourhoods overall and separately for neighbourhood oriented and non-neighbourhood oriented commercial activities. The figures are based on annual sector shares per neighbourhoods of multiple years as indicated in the table. A first striking, but intuitive observation is that mobility is considerably lower in neighbourhood oriented sectors than in non-neighbourhood oriented ones, which is likely the consequence of the former group's higher dependency on local customers that cannot easily be served from other locations. A second explanation may be that business spaces are economically priced as compared to locations elsewhere, which may induce firms to stay in disadvantaged urban neighbourhoods.

Table 2 here

Although, pre-war neighbourhoods were portrayed in Beckers (2010) as the more attractive production environments, we did not find significant differences in mobility rates between pre-war and post-war neighbourhoods. A plausible answer to the question why firm mobility rates in post-war neighbourhoods are not generally higher than in pre-war ones might be found with the characteristics of local entrepreneurs in these neighbourhoods. Given that pre-war neighbourhoods are more attractive and competitive business environments (i.e. Beckers, 2010), it is rather plausible that these neighbourhoods draw better equipped entrepreneurs with higher growth ambitions than is the case in post-war neighbourhoods. Moreover, as these entrepreneurs will achieve higher firm growth than entrepreneurs with lower growth ambitions, they will experience business space shortages sooner, which in many cases will necessitate firm emigration from the neighbourhood, likely towards business estates where spatial expansion possibilities are greatest (Weterings *et al.*, 2009). This phenomenon may well explain why mobility rates are not significantly higher in post-war neighbourhoods than in pre-war ones despite the neighbourhoods' differences in local market attractiveness.

With regard to neighbourhood oriented commercial activities, firm mobility rates for pre-war neighbourhoods are found to be significantly higher than for post-war neighbourhoods. This is likely partially the result of the just mentioned neighbourhood compositional differences of entrepreneurs' characteristics. Another explanation is rooted in compositional differences of neighbourhood oriented business

sectors between pre-war and post-war neighbourhoods. Given greatly stricter spatial regulations of commercial activities in post-war neighbourhoods (only firms serving the needs of the local residents are in principal allowed in the neighbourhood), this results in a far lower degree of diversity in local neighbourhood oriented commercial activities with greater dependency on local customers. Consequentially, the neighbourhood oriented firms in post-war neighbourhoods are less inclined to move than their counterparts in pre-war neighbourhoods as they would lose a greater share of their customers in the process.

Firm location factors and firm mobility choices of entrepreneurs in pre- and post-war residential neighbourhoods

In this section, we establish a link between key firm location factors identified in the literature⁵ and mobility choices of entrepreneurs in pre- and post-war urban residential neighbourhoods. First, we take a look at firm location advantages and disadvantages of neighbourhood movers and stayers in these neighbourhoods, based on the 40 interviews with entrepreneurs⁶. Second, for the twenty firm movers, we consider entrepreneurs' evaluations of business space aspects before and after relocation from pre- and post-war neighbourhoods. The analysis takes off with some general remarks on firm location advantages and disadvantages of neighbourhood stayers and movers. An important aspect to keep in mind when comparing these figures is that 19 out of the 20 firm movers are entrepreneurs operating in the non-neighbourhood oriented sectors, while the twenty stayers are equally divided between neighbourhood oriented and non-neighbourhood oriented sectors. It was just about impossible to find neighbourhood oriented firm movers.

To start with, an interesting general difference between firm movers and stayers is found. Firm spatial expansion possibilities are considered to be a firm location disadvantage by movers, but not by stayers, which suggests that moving was likely motivated by the business spatial expansion needs of entrepreneurs. This also reflects in the following quote by a neighbourhood expert, which demonstrates the

⁵ The following firm location factors are considered: 1. contacts with local residents; 2. neighbourhood ethnic population mix; 3. costs of firm space; 4. firm closeness to home; 5. firm closeness to customers; 6. neighbourhood cleanliness; 7. neighbourhood safety; 8. firm access and availability of parking space; 9. firm spatial expansion possibilities.

⁶ For both stayers and movers the location (dis-)advantages relate to the original firm location in disadvantaged urban neighbourhoods.

link between the shortcoming of commercial space and local spatial regulations in disadvantaged urban neighbourhoods:

'But you also see how difficult it is to [keep firms in the neighbourhood]... this story of the carpentry ..., Yes, they really want to stay in the neighbourhood. And that is really difficult. Because try to find a space for such a craft firm that needs to adhere to noise and environmental regulations... New carpenter's workshops are no option. The local spatial regulations does not allow that anywhere [in the neighbourhood].'

We find a number of other general differences between firm movers and stayers that, however, tell less about firm inclinations to move but are rather the result of the imbalance between neighbourhood oriented and non-neighbourhood oriented firms among the groups of movers and stayers. These findings confirm our expectation that neighbourhood oriented firms are less satisfied with business space costs than non-neighbourhood oriented firms (the latter firms tend to have no costs apart from the costs of their homes), and are more concerned about accessibility/availability of parking space, neighbourhood cleanliness and the local population composition.

The mover-stayer differences tend to diverge between pre- and post-war neighbourhoods for the items firm spatial expansion possibilities, neighbourhood ethnic population mix, and neighbourhood safety. Although, the insufficient supply of commercial spaces is certainly the prime motivation for firm mobility in both pre- and post-war neighbourhoods, the factor appears to weigh more heavily in the latter neighbourhoods. This observation seems rather intuitive given the highly restrictive spatial regulations and scarce provisions of commercial spaces there. The findings relating to neighbourhood ethnic population mix and safety indicate that firm stayers in post-war neighbourhoods are more sceptical about their neighbourhood population composition and safety than any of the other groups of stayers and movers. This illustrates the greater divide between neighbourhood oriented and non-neighbourhood oriented businesses in post-war neighbourhoods vis-à-vis pre-war ones, which may be explained by the group's particularly strong dependency on local customers.

Figure 1 below presents the responses of the twenty neighbourhood firm movers (10 from pre- and 10 from post-war neighbourhoods) to the following question: When you compare the current location with the prior one, are the following

aspects better or worse for your firm? A number of general observations with regard to movers' evaluations of business space aspects can be made. First of all, overall the business relocation choice seems to have been beneficial for entrepreneurs as improvements were realized regarding all but one of the stated business space aspects. Second, the relocation decisions were taken despite that fact that they resulted in higher costs of the business spaces. This indicates a willingness among entrepreneurs to make higher investments to improve on their local production environment. A more in-depth look at Figure 1 reveals that the move was likely motivated by the business spatial expansion needs of entrepreneurs as gains relating to this location aspect are particularly large. As nearly all movers are operating in non-neighbourhood oriented sectors, this trend moreover seems to indicate that many of the home-based firms in disadvantaged urban neighbourhoods have found 'proper' commercial spaces and/or that entrepreneurs have moved into larger accommodations. This finding is voiced in many of the interviews with firm movers of which three illustrative examples are found in the following quotes originating from entrepreneurs active in the business services, ICT and media production, and business services sectors respectively:

'...because I got the chance to buy a pretty house with a fair piece of building ground. And with the thought in the back of my mind that I could probably build a nice business space as well. That is really the reason [for moving].'

'No, they [the possibilities of business spatial expansion] were ... bad. Look, that is why I moved.'

'Yes, we did that [moving the firm] ... there were customers coming here and at home I cannot receive them, I do not like that much ... That... is more relaxed. You can also... look we have a very big room next door, so we have quite a nice business space here. Now, it is because of the space and also because of privacy. That is actually the biggest reason [for moving]. And also to give the firm a bit more of a face..., at home I have a dog running around and you know when the telephone rings the dog barks, then they think, where is he located at?'

Figure 1 here

Entrepreneurs' private considerations are also an important reason stated for firm mobility. Since many firms in disadvantaged urban neighbourhoods are operated from the entrepreneurs' home, this implies in many cases that if entrepreneurs' households move, then the firm moves along. Thus, firm mobility is not necessarily the outcome of firm-specific considerations, but may also be triggered by developments in the entrepreneurs' private life as reflects in the following quote of an entrepreneur who relocated her firm:

'In 2005 I had my first child, I then had my second and we lived in a small apartment at that time in the Indische Buurt. Yes, we needed more space. More space in Amsterdam is for me financially not possible at the moment and then you go simply just to the periphery of the city. And that had not much of a connection with what I did. More with why we were so to say. I work from home but generally where customers are. So for me ... the location is nearly irrelevant so to say.'

Another aspect that was stated as a reason for firm mobility from disadvantaged urban neighbourhoods is neighbourhood safety. A number of business owners express their concerns about the local security situation and relatively higher crime rates than found elsewhere. While this is more relevant as a business concern for neighbourhood oriented firms (as most non-neighbourhood oriented firms are operated from homes), it certainly is an important private concern to all entrepreneurs and their families. This shows in the following quote by a non-neighbourhood oriented entrepreneur:

'Because I think that it is very prone to break-ins... Criminality is very high... And because of that very many people, also entrepreneurs by the way, butchers, bakeries, all also move ... Because there ... all new apartments are there. And there it is still fairly quiet. So you see that the businesses also move on.'

Differences in firm mobility gains between pre- and post-war neighbourhoods seem to relate predominantly to location aspects to do with market potential and local embeddedness. While movers in pre-war neighbourhoods realize greater gains relating to market potential (firm accessibility and availability of parking space,

neighbourhood safety), on the contrary, mobility gains in local embeddedness (neighbourhood ethnic population mix) seem somewhat higher in post-war neighbourhoods (although not significantly at the 10% level). In line with the prior findings, it seems that these stated differences capture essential shortcomings of the two types of local production environments, which are the accessibility/availability of parking space and safety in pre-war neighbourhoods, and the ethnic population composition in post-war neighbourhoods. The following quote of a pre-war neighbourhood expert illustrates the gloomy local safety outlook in pre-war neighbourhoods:

'...entrepreneurs do not endure for long. You [the entrepreneur] have already operated awhile from here and at some point you have just had enough of it... Yes, but he [referring to a firm mover] has given up when criminality became so high that ... he was a goldsmith ... And he left as a consequence of several robberies... He said: 'I cannot work here anymore, so I am afraid I have to leave.'

Relocation considerations of neighbourhood stayers in pre- and post-war neighbourhoods

Finally, in this part we briefly focus on the twenty neighbourhood stayers in pre- and post-war neighbourhoods (entrepreneurs who have not relocated to other neighbourhoods) to gain insight in entrepreneurs' relocation considerations and to uncover potential differences in move and keep factors between these neighbourhoods. We ask neighbourhood stayers to express their agreement with the statement: 'I will never relocate my firm to another neighbourhood', and then compare the responses between pre- and post-war neighbourhoods. The comparison suggests that entrepreneurs in post-war neighbourhoods seem somewhat more likely to move. When asking the same entrepreneurs to express their agreement with the statement: 'My firm would perform better in another neighbourhood', post-war neighbourhood stayers tend to agree somewhat more than pre-war neighbourhood stayers. Considering entrepreneurs' responses to the before statements jointly, there

seems to be a link between lower local market prospects and higher entrepreneurs' inclinations to move in post-war neighbourhoods as compared to pre-war ones.⁷

This link is however significantly weaker for neighbourhood oriented firms than for non-neighbourhood oriented ones. So, even if firm prospects might be better in other neighbourhoods, entrepreneurs in the neighbourhood oriented sectors tend to be reluctant to move. The greater local attachment of neighbourhood oriented firms as compared to non-neighbourhood oriented firms also reflected in the mobility figures from the chambers of commerce business data in section 5.1 and was shown by the fact that it was just about impossible to find neighbourhood oriented firm movers to interview. The likely explanation for greater local attachment of neighbourhood oriented firms is found with their higher dependency on local customers that cannot easily be served from other locations as is illustrated in the following quote by a neighbourhood oriented shop owner.

'I think not [to relocate the firm in the future], because ... I am better here ... better to be found. Because here I have built up a specific customer base over all these years that we are located here and then, you cannot start higher than zero. You start at zero.'

6. Conclusions

This study set out to investigate how the local spatial environment and its regulations may affect firm mobility choices of entrepreneurs in disadvantaged residential urban neighbourhoods of the Netherlands. Two types of disadvantaged residential urban neighbourhoods with very different built environments and zoning regulations, namely the mixed-use, pre-WWII neighbourhood and the monofunctional, residential post-WWII neighbourhood are compared to gain insight into how these two neighbourhood aspects impact on local commercial activities and specifically on firm mobility choices of entrepreneurs. The salient differences between the two types of neighbourhoods not only reflect in the types of dwellings, street plans and diversity of the buildings, but also with respect to the zoning plans. The pre-war neighbourhoods stand out for their relatively low (up to four stories) and small blocks, with finely-grained street plans, relatively diverse housing and business

⁷ However, we need to be cautious in the interpretation of our finding given the small sample size.

spaces, and comparatively tolerant zoning plans. On the contrary, the post-war neighbourhoods have higher and larger housing blocks, are connected to major thoroughfares, tend to be more monotonous and have stricter zoning plans.

The analysis of this paper combines both quantitative and qualitative data; the former stems from the Chambers of Commerce, while the latter is collected during focus group discussions with neighbourhood experts and individual interviews with local entrepreneurs. These mixed methods data sources convey a comprehensive picture on the interplay of local spatial and regulatory contexts and local business dynamics in the two sets of disadvantaged urban neighbourhoods, and reveals fundamental differences between them.

First, among the entrepreneurs operating from the study neighbourhoods at the moment of the interviews those in post-war neighbourhoods show a higher inclination to relocate their firm. Moreover, these higher inclinations to move in post-war neighbourhoods vis-à-vis pre-war neighbourhoods tend to be linked to lower local market prospects there.

Second, surprisingly, overall mobility rates do not significantly differ between the two neighbourhood types although pre-war neighbourhoods are the more attractive local production environments (see also Beckers, 2010). This finding can likely be explained by differences in entrepreneur characteristics between the two neighbourhood types, whereby pre-war neighbourhoods draw entrepreneurs with higher growth ambitions who encounter business space shortages sooner than their counterparts in post-war neighbourhoods. Spatial regulations in post-war neighbourhoods greatly restrict the diversity and scope of local commercial activities, which likely discourages most entrepreneurs from starting up their firm from there. Suitable commercial spaces are hard to find and physically separated from residences, and commercial zones are far from ‘buzzling’. This fundamental difference in the nature of commercial activities between the two neighbourhood types was clearly visible in Table 1.

Third, when comparing mobility trends between the two neighbourhood types separately for neighbourhood oriented and non-neighbourhood oriented commercial activities, we observe significant differences for the first category of activities, but not for the second one. Interestingly, for neighbourhood oriented commercial activities, post-war areas have considerably lower firm mobility rates than pre-war ones. The commercial activities within neighbourhood oriented sectors in post-war areas are

greatly less diverse and more centred around local customers. This is a direct consequence of more restrictive spatial regulations for commercial activities there, which in principal disallow firms that are not serving the daily needs of local residents. It is therefore little surprising that firms with higher local customer dependency in post-war neighbourhoods are also less mobile as they would lose their customer base in the process of moving.

Next to the before differences between pre-war and post-war neighbourhoods, we draw a number of general conclusions about firm mobility in the study neighbourhoods. First, given that many firms in disadvantaged urban neighbourhoods are home-based, firm mobility choices are found not only to be driven by business-related considerations, but also by private considerations of entrepreneurs and their families. The most important business-related motivation for firm relocation is the lack of spatial expansion possibilities as also concluded by Pen (2002) and PBL (2010) and which shows the validity of the theory of business accommodation behaviour (Brouwer, 1994). Next to this, also neighbourhood safety matters, which shows the negative effects that the unfavourable local environments have on firm mobility choices. Entrepreneur private considerations also affect firm mobility as home-based firms move to 'proper' commercial spaces or entrepreneurs change homes, an argument also made by Schutjens *et al.* (2007).

A second, general conclusion is that firm mobility and inclinations to move are considerably lower for neighbourhood oriented firms than for not neighbourhood oriented ones. This is not surprising given that the former firms show greater neighbourhood attachment and higher dependency on local customers that cannot easily be served from other locations.

Concluding, the local built environment and its spatial regulations do indeed appear to affect firm mobility choices of entrepreneurs in the neighbourhoods of our study, although overall mobility rates do not significantly differ between pre- and post-war neighbourhoods. Further analysis, however, reveals that these two sets of neighbourhoods offer distinct local production environments, and the nature of commercial activities as well as entrepreneurs' neighbourhood experiences differ notably.

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Table 1 Total firms, sector and neighbourhood cluster distributions***

total 2006	pre- and post-WWII clusters			
	pre		post	
business sector classification				
	total	total per 10ha building area**	total	total per 10ha building area**
neighbourhood oriented*	350	20.3	124	14.6
% of neighbourhood total	37%		48%	
non-neighbourhood oriented	603	35.1	137	16.1
% of neighbourhood total	63%		52%	
OVERALL	953	55.4	261	30.7

* Neighbourhood oriented firms operate in the sectors hotel and catering, personal services, retail and repair. All other firms are nonneighbourhood oriented.

** includes residential and commercial spaces as well as cultural and public facilities; data of neighbourhood building area stems from Netherlands Bureau of Statistics, Statline, 2009.

*** The agricultural sector is excluded from the display as entrepreneurial activities in this sector are very low to non-existing.

Table 2 Mean firm mobility per total firms, per sector and neighbourhood cluster

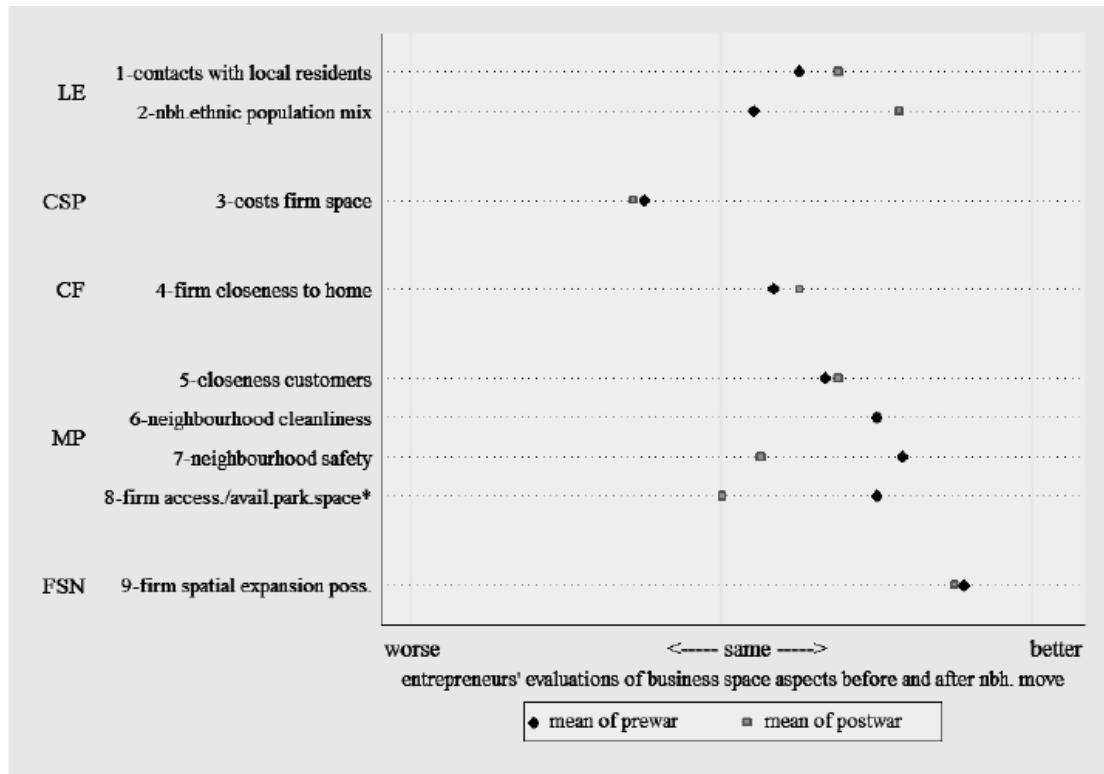
	(% per total firms 2006) ***	pre- and post-war clusters**				
	business sector classification	pre		post		p-value (Welch t)
		mean	obs.	mean	obs.	
annual movers (avg. years 2005-2007)	neighbourhood oriented	4.4	27	2.0	18	0.065
	non-neighbourhood oriented	8.3	72	9.8	48	>.1
	all sectors	7.2	99	7.6	66	>.1

* Neighbourhood oriented firms operate in the sectors hotel and catering, personal services, retail and repair. All other firms are nonneighbourhood oriented.

** P-values indicate significance levels of Welch's t-tests (assuming unequal variances and sample sizes) comparing means between pre- and post-war neighbourhood clusters.

*** The agricultural sector is excluded from the display as entrepreneurial activities in this sector are very low to non-existing.

Figure 1 Entrepreneurs' evaluations of business space aspects before and after neighbourhood relocation, pre- and post-war neighbourhoods



Notes: The figures indicate the items' mean scores among pre- and post-war neighbourhood movers. The symbol * indicates inter-group mean differences significant at the 10% level. The scale ranges from 1 to 3 as marked by the vertical lines indicating the following: 1-worse, 2-same, 3-better. The figure grouping abbreviations for firm location factors correspond to the established grouping in section 4.1, namely: LE-local embeddedness, CSP-cost saving potential, CF-convenience factor, MP-market potential, FSN-firm spatial needs.

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